DEADMAN'S BASIN
TERMINAL OUTLET REPLACEMENT PROJECT
WHEATLAND COUNTY, MONTANA
ADDENDUM #1

April 24, 2009

A. GENERAL

1. This addendum shall be considered a part of the contract documents and shall take precedence over all requirements for the Work shown on the Drawings and/or Specifications.

2. Work not specifically changed or modified by this addendum shall be as shown on the Drawings and/or specifications or as modified by previous addendum.

3. Bidders are required to acknowledge receipt of addendum by number inserted in spaces provided on the Bid Form. Failure to do so may result in disqualification of the bid.

B. PROJECT MANUAL

1. **Bid Schedule, page 00300 – 4:** Correct the quantity of Road Gravel, Item # 126, to 340 CY instead of 5008 CY (typo). Use the attached replacement sheet for bid submittal.

2. **Section 01150 1.09:** Revise the following Measurement and Payment subsections as follows:

   Item 101 – Mobilization and Preparatory Work: Add the following 2 subsections:

   13. *Demobilization, project closeout, record drawings, O&M manuals, site cleanup and other project closeout incidentals.*

   14. *Project signs, pre-construction photographs, schedules, staging area security fence, if desired, and all unlisted construction management incidentals.*

   Item 104 – Demolition: Includes removal, hauling and on-site disposal of items such as the existing outlet structure, *piezometers*, fencing and other items not included in other payment items. Measurement and payment will be at the Contract lump-sum price.

   Item 121 – Compacted Fill: Includes *borrow excavation, loading, hauling,* placing and compacting fill from onsite excavations or borrow to the lines and grades shown on the Drawings or as directed by the ENGINEER. *Also includes furnishing and placing Erosion Protection TRM, V-ditches, rock splash pad, interceptor ditch improvements, quality control testing and other incidentals.* Measurement and payment will be made at the Contract unit price per cubic yard.

Item 131 – 6-inch PVC Drainpipe: Includes providing and placing drainpipe to the lines and grades shown on the Drawings. Filter Sand and Drain Gravel associated with the Drainpipe will be measured and paid separately. Measurement and payment will be made at the Contract unit price per linear foot of the actual installed *horizontal* length of pipe. *Vertical risers will not be included in the measurement. Incidentals will include, but not be limited to, fittings, risers and riser vault with locking lid.*

Item 152 – Outlet Structure: Includes forming, reinforcement, structural concrete, curing, and finishing for the new outlet structure. Earthwork including excavation and backfill will be paid in separate items. *Concrete quality control testing is incidental to this item.* Measurement and payment will be made at the Contract lump-sum price.

Item 161 – Channel Armoring: Includes excavation, grading, and placement of the cable reinforced articulated concrete blocks, geotextile, and concrete anchor walls *to the lines and grades shown on the drawings.* ~~A grouted riprap channel armoring may be submitted as a bid alternative. However the CONTRACTOR shall submit a design for the grouted riprap that is acceptable by the Engineer.~~ Measurement and payment will be made at the Contract lump-sum price.

3. **Section 02110 3.01 C. 1.:** Change the word "off-site" to "onsite". This section should read: Unless indicated otherwise, dispose of all material removed as a result of clearing and grubbing *onsite* in a legal manner according to local, state and federal regulations."

4. **Section 02222 2.01 A. 4.:** Revise the required plasticity index for road gravel by deleting the words "between 6 and 15" in the 3rd line of the section to "*less than 6 (PI<6)*".

5. **Section 02222 2.01 A.:** Revise the filter sand column in Table 02222-1 to delete the 1-inch and ¾ -inch components of the filter sand gradation. The filter sand gradation will be as follows:

SIEVE SIZE	PERCENT PASSING BY DRY WEIGHT
⅜ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 200	0-2

6. **Section 02910 3.04 A.:** After first sentence add the following: "The drill seed rate is half the broadcast application rate. Seeding by hand or mechanical broadcasting will be permitted on areas inaccessible to drills or impractical to seed by other prescribed methods as approved by the Engineer."

7. **Section 02910 3.05 A.:** Delete in its entirety.

8. **Section 02910 3.05 B.:** Delete "cut" from first sentence.

9. **Section 03300 2.04 B.:** Revise the second sentence to read as follows: "Class 5000 will be used for the concrete collar and terminal outlet structures on this Project."

10. **Section 03300 3.12 H.:** Delete the first sentence of this section and replace with the following:

    H. CONTRACTOR will hire a certified laboratory to test the concrete materials to determine conformance with specification requirements. Concrete testing will generally consist of the following:

C. PROJECT DRAWINGS

1. **Sheet D-4:** Delete this sheet and replace with the attached revised sheet D-4. Changes made to the sheet include correction of the horizontal profile scale for H-H' Cross Section for stations greater than 3+00, revising the Toe Drain Daylight station callout to STA 3+70.8, and correcting the detail reference for the rock splash pad in the plan view to "(SEE D-11)".

2. **Sheet D-5:** Delete the note in the lower left corner of the sheet. The note being deleted is: "NOTE: SEE BID ALTERNATIVE FOR GROUTED RIPRAP AS PRESENTED IN THE PROJECT SPECIFICATIONS." This sheet will not be reissued.

D. BIDDER QUESTIONS AND ANSWERS

1. **Question:** Would it be possible to stockpile material on site and develop borrow areas before the Oct 1st start date without infringing on the 90 day time limit?
   Answer: Yes. A partial Notice To Proceed (NTP) with material ordering, processing, stockpiling, etc. will be issued prior to the formal NTP with construction with the condition that such work can not interfere with dam and canal operations and must be coordinated with the Deadman's Basin Water Users Association (Secretary/Dam Operator is Teri Hice 406-323-3407).

2. **Question:** Has there been previous geotechnical analysis done on the material in the borrow areas shown on the plans? Does the fill material provided meet the required gradient?
   Answer: No, there has NOT been previous geotechnical investigation for the borrow areas shown on the plans. However, Borrow Area #1 is prequalified to use as compacted fill for the toe berm regardless of whether or not it meets to listed specifications. Borrow sources other than those shown on the plans will need to meet the specifications.

3. **Question:** Is it thought that the sand for the filter can be found on site, or do you believe it will need to be washed concrete sand?
   Answer: There is "blow sand" near the project site, but it is doubtful that it will meet the specified gradation. As the gradation of the filter sand and drain gravel

are critical, there is a good chance that the filter sand will need to be washed concrete sand.

4. **Question:** Are there gravel sources near the site?
Answer: There is a gravel pit near the site that has been used on previous projects associated with Deadman's Basin Dam and canals. Attached is a 2005 memo, map and sieve analysis of the pit. As the gradation of the drain gravel is critical, there is a good chance that materials in the pit will need to be processed to meet project specifications for drain gravel.

5. **Question:** Are there riprap sources near the site?
Answer: This question was in reference to comments in the specifications and plans about a Grouted Riprap Bid Alternative to Item 161, Channel Armoring. All references to this Bid Alternative have been removed, and a bid alternative will not be considered for Channel Armoring.

   In a related matter, some riprap is needed for the rock splash pad at the daylight end of the toe drain. One possible source of larger stones/rock in the project vicinity may be in existing stockpiles of field rock on the Winnicook Ranch, a private land owner near Shawmut, MT. The quality, volume and accessibility of this potential rock source are not known and the CONTRACTOR will need to verify and negotiate procurement with the landowner.

LIST OF ATTACHMENTS TO ADDENDUM #1 OF THE DEADMAN'S BASIN TERMINAL OUTLET REPLACEMENT PROJECT

1. Revised Sheet 00300-4 Bid Schedule
2. Sieve analysis/maps/info for existing pit
3. Revised Drawing Sheet D-4

DEADMAN'S BASIN TERMINAL OUTLET REPLACEMENT PROJECT

BID SCHEDULE

Item No.	Item	Quantity	Unit Cost	Extended Total Cost
101	Mobilization & Preparatory Work	1 LS	N/A	
102	Dewatering	1 LS	N/A	
103	Stripping and Reclamation	1 LS	N/A	
104	Demolition	1 LS	N/A	
111	General Excavation	9,983 CY		
112	Toe Drain Excavation	778 CY		
121	Compacted Fill	27,000 CY		
124	Filter Sand	3,300 CY		
125	Drain Gravel	1560 CY		
126	Road Gravel	340 CY		
131	6-inch PVC Drainpipe	580 LF		
136	Monitor Well Extension or Abandonment and Replacement	1 LS	N/A	
141	Outlet Conduit - 8' x 8' Box Culvert	102 LF		
142	Conduit Transition & Concrete Collar	1 LS	N/A	
152	Outlet Structure	1 LS	N/A	
152	Channel Armoring	1LS	N/A	

TOTAL BID PRICE _____ Figures

_____ Words

Addendum #1, Attachment 1: Revised Sheet 00300-4 Bid Schedule

Addendum #1, Attachment 2: DNRC GRAVEL PIT IN PROJECT VICINITY

Attached is a portion of a memo written in 2005 that contains information about the gravel pit on DNRC property located near the project site. The memo, map and sieve analysis are presented for informational purposes only as the gravel pit has been used since the memo was prepared. Bidders will need to verify both quantities and available gradation but should know that this gravel source can be used if the material can be processed to meet drain gravel specifications.

If used, incidental items to the drain gravel bid item will include Development and Reclamation of the gravel pit. Incidentals would include the development; as well as stripping topsoil to stockpile, permitting, erosion control, and reclamation of OWNER supplied borrow source. Reclamation would consist of topsoil replacement and contour grading. The drain gravel item would also include excavating, loading, hauling, and placing drain obtained from OWNER supplied borrow source developed and Placement of the drain gravel to the lines shown on the Drawings or as directed by the ENGINEER.

MEMORANDUM

HKM ENGINEERING
Bozeman, MT
Phone (406) 586-8834
Fax (406) 586-1730

TO: Charlie Atkins (DNRC), Ed Everaert (HKM)

FROM: Greg Underhill

DATE: September 12, 2005

Project: Deadmans Basin Inlet Canal- Emergency repairs

Number: 8M087.177

SUBJECT: Results from preliminary borrow source investigation (September 2005)

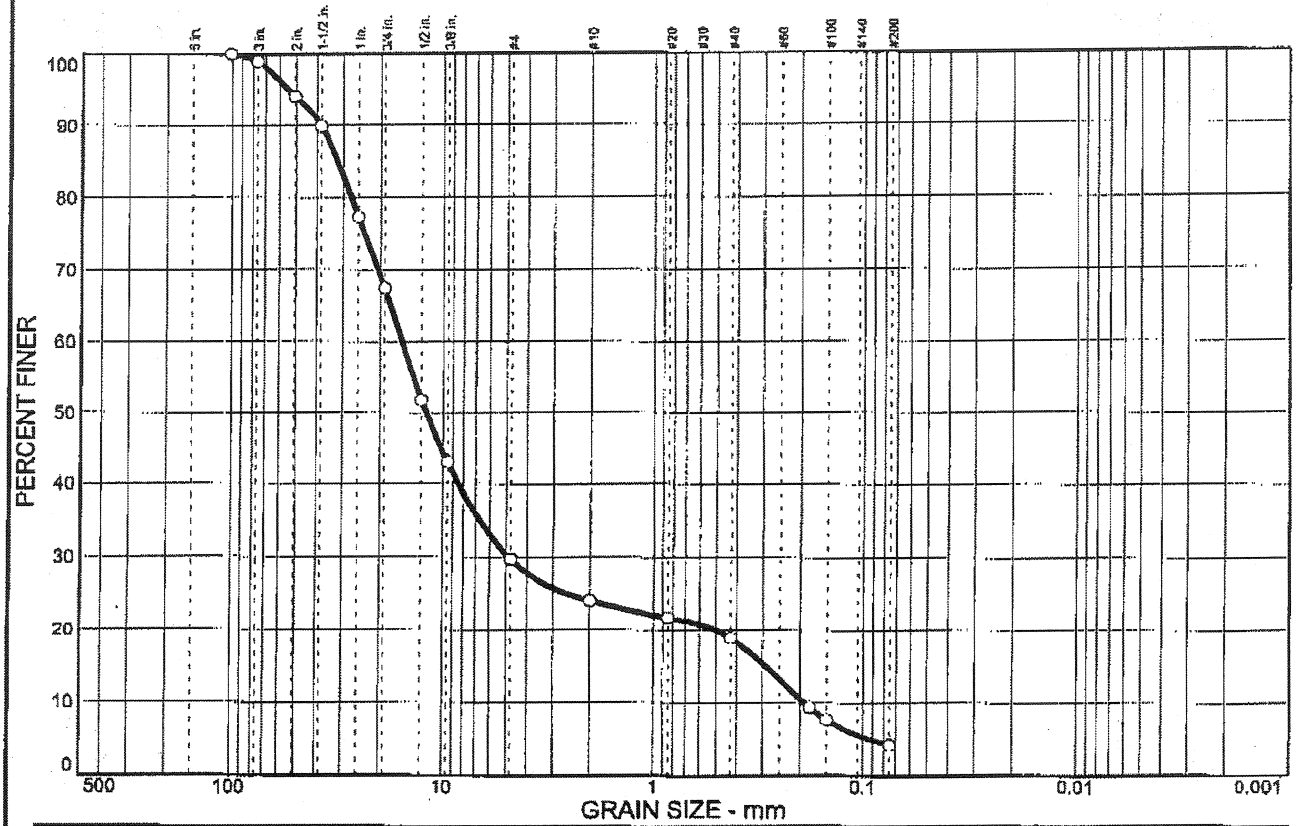
CC:

Borrow investigations were conducted in conjunction with DNRC to identify potential gravel sources for ballast over the proposed canal membrane lining and for fill at the damaged wasteway structures. Following is a summary of findings from the borrow investigation. I have submitted some samples for gradation analysis to confirm acceptability of the potential sources for canal lining material but am confident that the gravel materials we encountered are suitable.

DNRC site east of Roma's: The site consists of a knoll just south of the reservoir at the west edge of the recreation area. Eight test pits were excavated. The gravel layer thickness ranged from 5.5 to greater than 9.5 feet in depth with a thin topsoil layer ranging from 3 to 9 inches. The gravel encountered is approximately 3 inch minus material typically ranging from well graded gravel to clayey gravel with sand. This gravel should provide excellent cover for the lining material. Gradation tests are in progress.

Estimated gravel volume: 7800 c.y. (direct interpolation between test pits). It is likely that this deposit contains more than 10,000 cubic yards. Additional test pits would be needed to confirm this if deemed necessary. It is estimated that approximately 4,000 c.y. is needed for the liner ballast.

GRAIN SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
1.1	31.5	37.7	5.6	5.2	14.8	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
4 in.	100.0		
3 in.	98.9		
2 in.	94.0		
1.5 in.	89.8		
1 in.	77.2		
.75 in.	67.4		
.5 in.	51.8		
.375 in.	43.0		
#4	29.7		
#10	24.1		
#20	21.7		
#40	18.9		
#80	9.4		
#100	7.7		
#200	4.1		

* (no specification provided)

Soil Description

Poorly graded gravel with sand

Atterberg Limits

PL= NP LL= PI= NP

Coefficients

D_{85}= 31.9 D_{60}= 15.7 D_{50}= 12.1
D_{30}= 4.87 D_{15}= 0.290 D_{10}= 0.190
C_u= 82.62 C_c= 7.91

Classification

USCS= GP AASHTO= A-1-a

Remarks

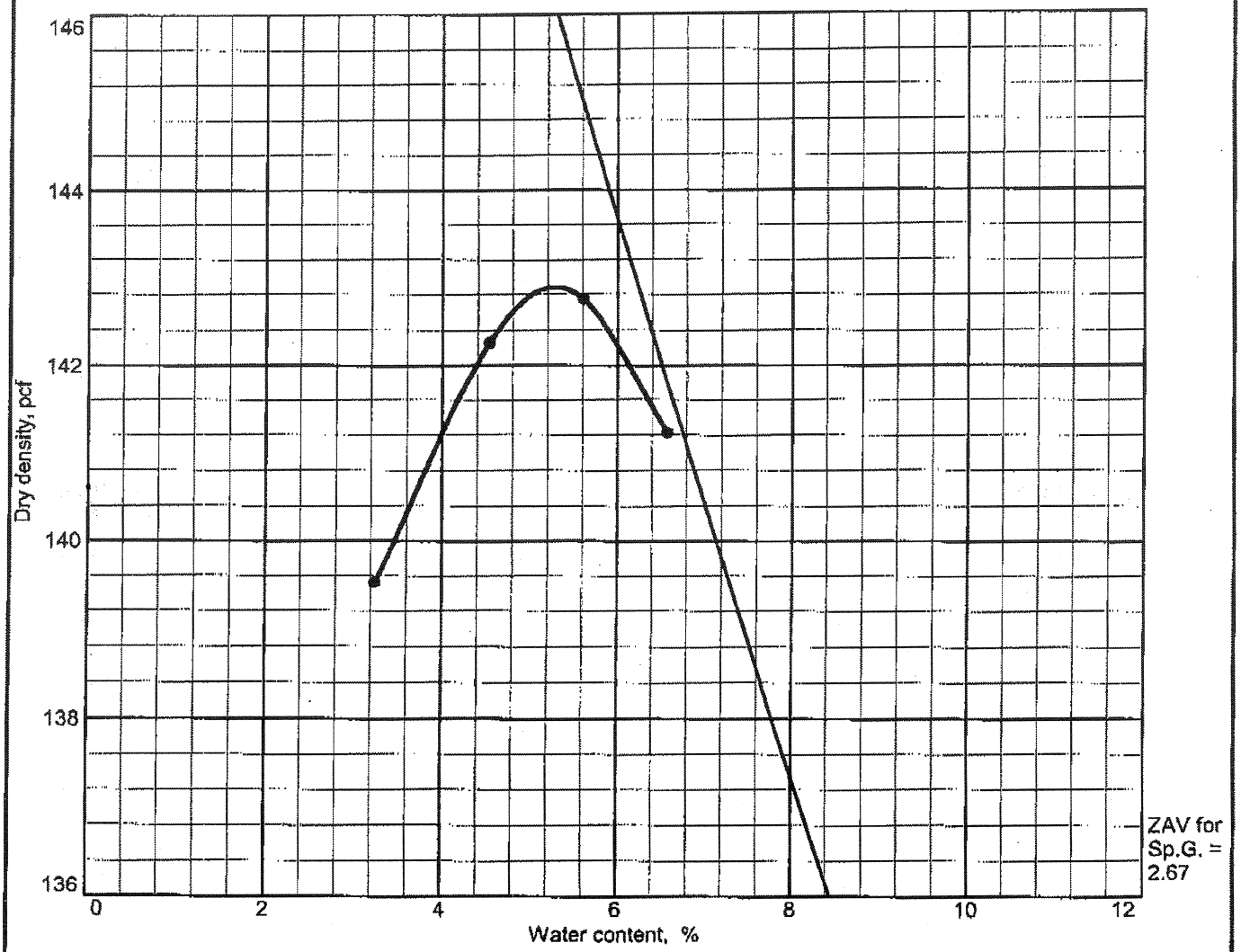
Sampled By: GU/HKM/9-2-05
Tested By: JMB/HKM/9-9-05
F.M.=2.63

Sample No.: 3234 **Source of Sample:** Roma **Date:** 9-13-05
Location: Roma TP-1 **Elev./Depth:**

HKM ENGINEERING, INC.

Client: DNRC
Project: Deadman's Basin Canal
Project No: 08M087.177 3234

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure C Standard
Oversize correction applied to each point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
	GP	A-1-a				NP	32.6	4.1

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 142.9 pcf	135.7 pcf	Poorly graded gravel with sand
Optimum moisture = 5.3 %	7.1 %	

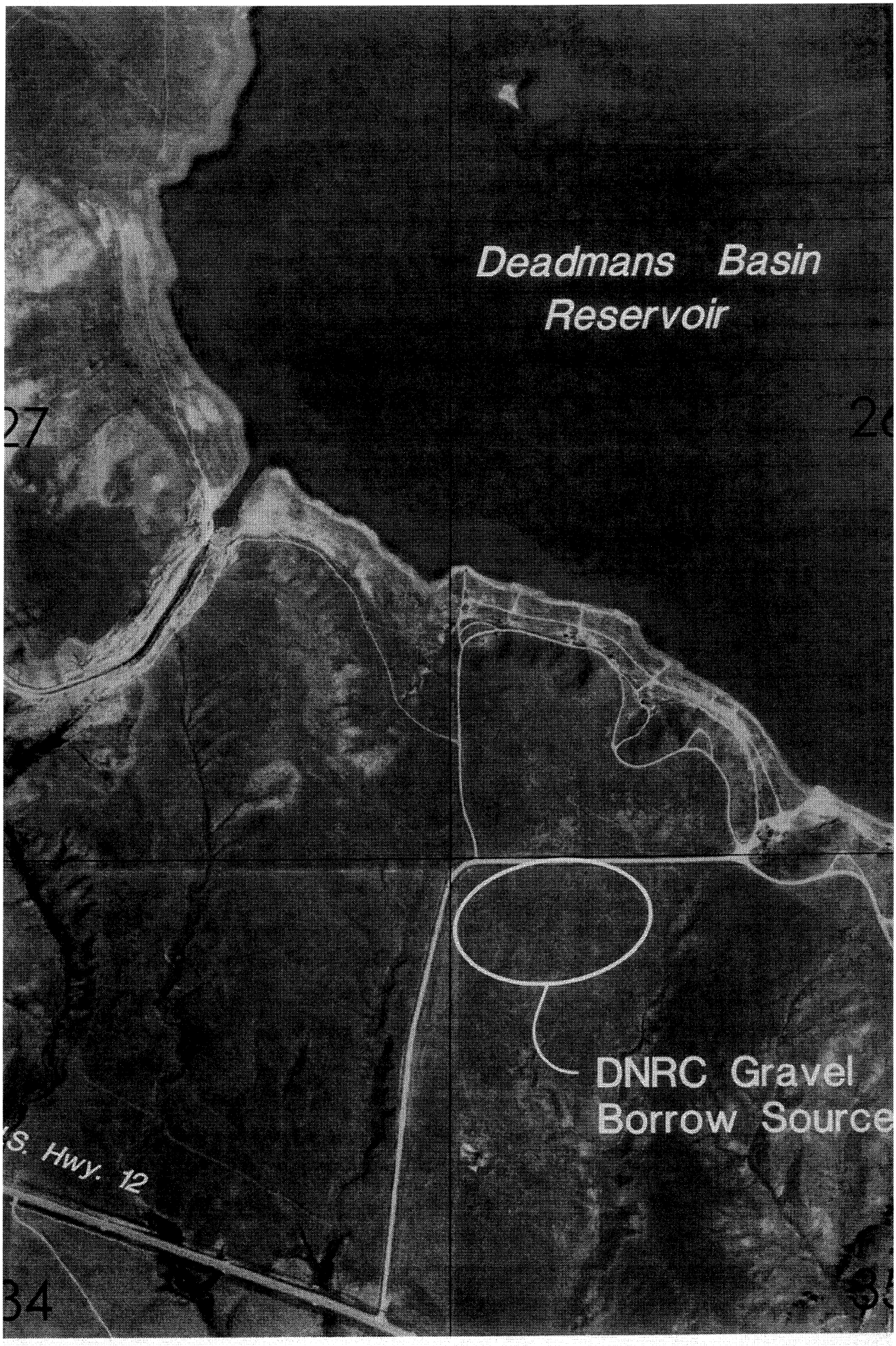
Project No. 08M087.177 **Client:** DNRC
Project: Deadman's Basin Canal
● **Location:** Roma TP-1

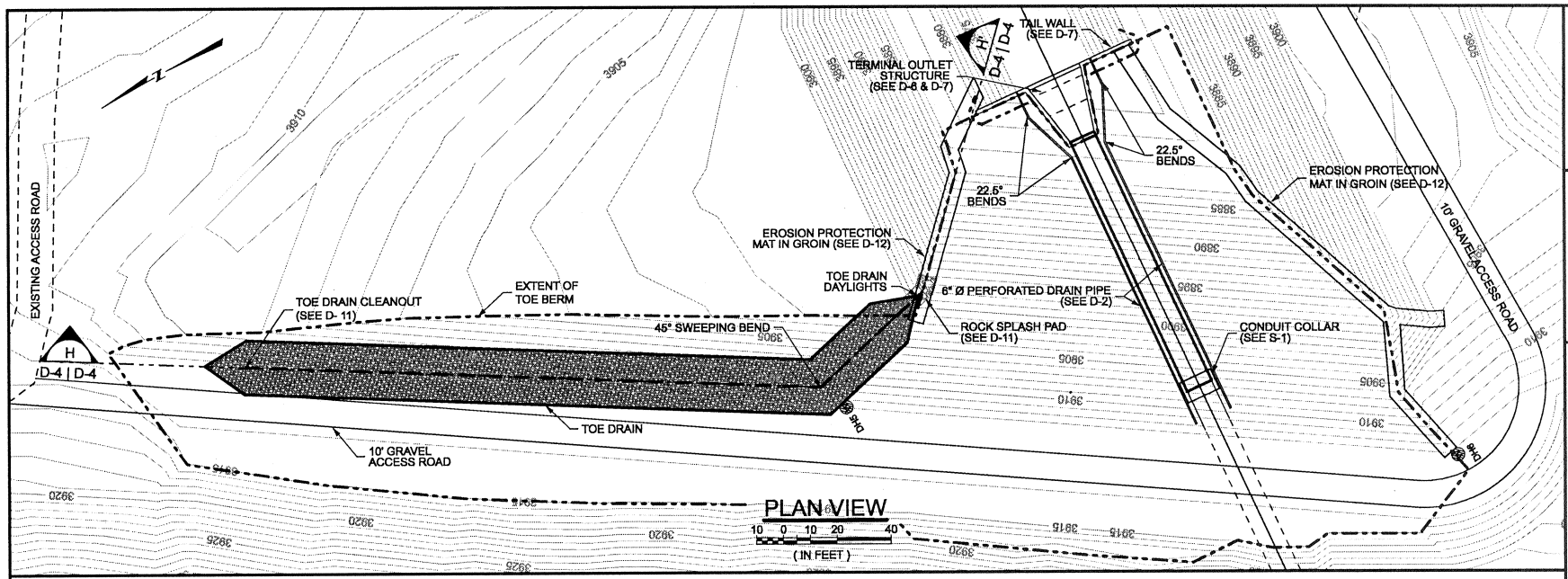
Remarks:
Sampled By: GU/HKM/9-2-05
Tested By: JMB/HKM/9-9-05

MOISTURE-DENSITY RELATIONSHIP TEST

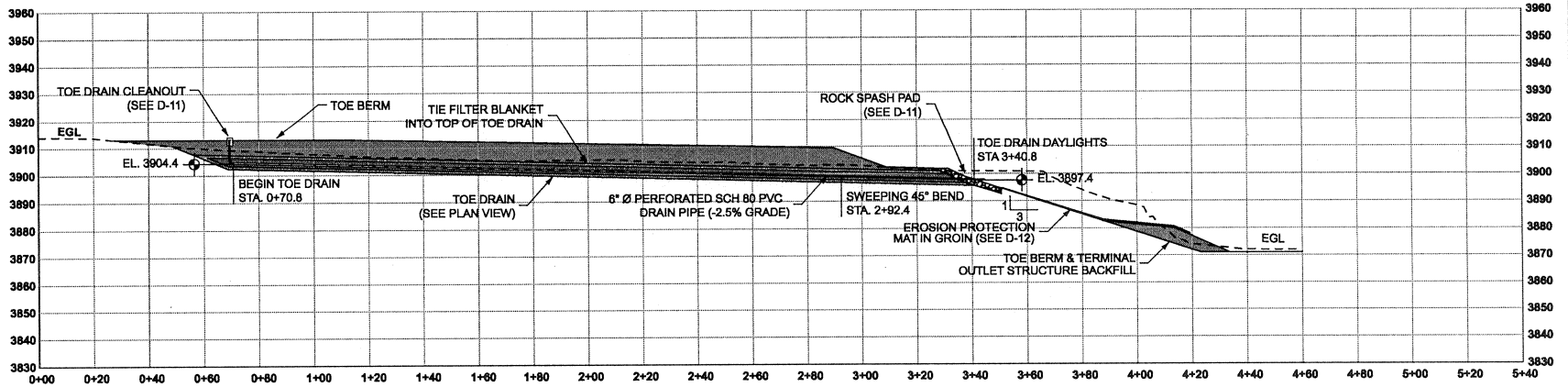
HKM ENGINEERING, INC.

3234


Deadmans Basin
Reservoir
27
DNRC Gravel
Borrow Source
S. Hwy. 12
34



EGL = EXISTING GROUND LINE



H-H'
D-4 | D-4
CROSS SECTION
10 0 10 20 40
(IN FEET)

MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
1424 9th Avenue
PO Box 201601
Helena, MT 59620-1601
(406) 444-6601

WWC ENGINEERING
1276 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962

DRAWN	BY
DATE	KGS
4/17/08	
REVISED	
12/2/08	BJL
12/2/08	KGS
APPROVED	
2/17/09	BTH
1/26/09	TRC
1/26/09	BTH
4/20/09	BTH

DEADMAN'S BASIN TERMINAL OUTLET REPLACEMENT

Detail Sheet - Toe Drain

SHEET
D-4